(6.5) Interpreting Quadratic Equation Roots

**The Discriminant**

Use the graphing calculator to help you complete the following chart:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| quadratic function | sketch | number of roots (0, 1, 2) | value of | nature of roots |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Summary:**

**Discriminant is: **

Roots can be **ONE** of three types:

|  |  |  |
| --- | --- | --- |
| Nature of the roots | Value of the discriminant | Graphical representation |
| no real roots  (imaginary) |  |  |
| real and distinct  (2 different roots) |  |  |
| real and equal  (1 root) |  |  |

1. Where does the formula for the discriminant come from?
2. Find the discriminant of . What is the nature of the roots?